

Investigate: Are we all the same height?

You are going to carry out an investigation to compare heights of pupils in your class with the average heights of children in the whole country. You will read and discuss some ideas about the investigation, then write your plan.

- 1** Some pupils in Class 7E were asked to carry out an investigation to find out how the heights of children in their class compare with average heights of children in the whole country. Read some of their thoughts and comments, and then answer the questions.

We should measure everyone.

That would take too much time.

How will we know what 'average' is?

We'll need to look for information on children's heights.

How will we measure height to make it fair?

Boys and girls can be different heights.

There are different numbers of boys and girls in our class. Should we include them all?

We should ask people what their height is.

To be certain, we need to measure everyone ourselves.

We could measure each other and share the heights with the whole class.

- 2** Discuss these thoughts and comments in pairs. What do you think of each idea? Write down the statements that you agree with most.
- 3** Check what you have written with your teacher.

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Planning

- 4** What is the aim of your investigation? Write down the question you are trying to answer.
- 5** Discuss with a partner the number of different pupils you will need to measure to get a reliable result. Write down your decision.
- 6** Discuss how you will measure heights so that each measurement is fair.
- 7** Decide how you will organise your results. Where will you write them?
- 8** Where will you find information on the average height of children in this country? For example, you could look a health record book, an encyclopedia or on the internet. Ask your teacher if you are not sure where to start looking.
- 9** Complete your plan. Make sure it says:
 - what one thing you will change when making each measurement (this is the input variable)
 - what you will measure or observe (this is the outcome variable)
 - what you will keep the same to make it a fair test
 - how you will make the measurements (*Hint*: pupils may be wearing shoes with different size heels).
 - whether you will repeat the measurements, and why.
- 10** Check your plan with your teacher.

Predicting

- 11** What do you think the result of the investigation will be? Do you think that the average height of pupils in your class will be the same as the average height for children of your age across the whole country? Write down your prediction on your plan.